

## **ITEM**

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## **SUBJECT**

Long-term Storm Water Plan for the Grassland Bypass Project

## **BOARD ACTION**

Information Item

## **BACKGROUND**

Order R5-2015-0094 Waste Discharge Requirements for San Luis & Delta-Mendota Water Authority and United States Department of the Interior Bureau of Reclamation Surface Water Discharges from the Grassland Bypass Project (WDRs) address the collection, transport and discharge of agricultural subsurface drainage flows and storm water, from the Grassland Drainage Area, to surface water through 31 December 2019. The discharge of agricultural subsurface drainage water to Mud Slough (north), a tributary of the San Joaquin River, is prohibited after 31 December 2019 unless water quality objectives for selenium are being met. In the event the Grassland Bypass Project is extended, the Board may reissue this Order or prescribe new WDRs only upon a showing that all significant environmental impacts associated with the continued operation of the Grassland Bypass Project have been analyzed pursuant to any applicable provisions of the California Environmental Quality Act and only after the Dischargers demonstrate to the satisfaction of the Board that the continued operation of the Grassland Bypass Project is in compliance with the Endangered Species Act.

The Central Valley Water Board will be considering revisions to the current WDRs at an upcoming Board meeting. This item provides background on the Grassland Bypass Project and an overview of the proposed changes to project operations that will transition it to a long-term storm water management program with the discharge of agricultural subsurface drainage flows only occurring in the event of comingling with storm water.

Subsurface agricultural drainage flows in the Grassland Drainage Area originate from tile drains, or horizontal “pipes” that collect irrigation water and shallow groundwater and empty into open ditches or sumps. The tile drains are placed deep enough below the soil surface (about 7 to 8 feet in the Grassland Drainage Area) to keep groundwater out of the crop root zone. Irrigation water collected in the sumps was historically discharged to surface water and is presently diverted to the San Joaquin River Improvement Project where it can be reused to irrigate salt tolerant crops.

## **ISSUES**

Selenium is the main concern in the surface water discharge from the Grassland Drainage Area due to reproduction impacts on waterfowl. Selenium is a naturally occurring element in the soil and not a material added for crop production. Agricultural subsurface drainage from the Grassland Drainage Area typically contains high concentrations of selenium and salts and is the primary source of selenium to Mud

Slough and the San Joaquin River. While selenium is the primary concern, the drainage also contains boron, molybdenum, and high levels of salts that can impact receiving waters.

The proposed management approach for reducing the comingling of agricultural subsurface drainage flow with storm water includes the following modifications to the existing Grassland Bypass Project infrastructure including: sediment removal from the San Luis Drain to restore its operational capacity, installation of a remote shutoff system for the tile drain sumps, construction of additional short-term storage basins, and expansion of the San Joaquin River Improvement Project reuse area. When a storm is predicted to produce runoff that would exceed the capacity of the Grassland Bypass Project infrastructure to manage storm water flows within the Grassland Drainage Area, the tile drain sumps would be remotely shutoff. This would allow the storm water to be discharged with minimal comingling with the high concentration drainage water. Storage basins would be used to moderate peak storm water flows so that storm water runoff is discharged at rates within the capacity of the San Luis Drain, as much as possible, to reduce downstream discharges to Mud Slough (north).

Current management of agricultural subsurface drainage water in the Grassland Drainage Area has successfully eliminated agricultural discharges to the San Luis Drain during the irrigation season. The proposed changes to the Grassland Bypass Project infrastructure will support additional reductions in discharge of agricultural subsurface drainage water that currently occur as a result of comingling with storm water. Segregation of low-quality drainage water from storm water discharges will help control selenium concentrations in water reaching Mud Slough (north) and ultimately the San Joaquin River. However, this management approach may not be 100-percent effective as storm water runoff will pick up constituents naturally occurring in the soil through contact.

Plans for proposed revisions to the WDRs are currently in development to provide ongoing monitoring of selenium concentrations originating from the Grassland Drainage Area and provide requirements for how any exceedances will be addressed. The Dischargers are currently in the process of developing California Environmental Quality Act documents to support the Long-term Storm Water Plan for the Grassland Bypass Project.

## **RECOMMENDATION**

Not applicable

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Mgmt. Review: SYM

Legal Review: JMJ

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